

ABSTRACT

Modified virus-like particles (VLPs) can comprise fusion proteins having sequence from a major coat protein of papovavirus, e.g. L1 protein and HPV 16 or 18, in which the N-terminal of the sequence derived from the major coat protein is fused to a further peptide sequence. The VLPs can contain a full sequence of an L1 protein, or an L1 sequence with an N-terminal deletion, or an L1 sequence with an amino acid substitution mutation, and optionally a C-terminal L1 sequence deletion. The peptide sequence fused to the N-terminal can be immunogenic, e.g. from a protein of a pathogen such as a virus. The further peptide sequence can provide a binding domain for affinity purification of the VLP. Modified VLPs can retain the native conformation of the VLP structure while also presenting to the immune system of a subject immunized with the modified VLPs an epitope present on an N-terminal extension of the major coat protein sequence. Corresponding polynucleotides, expression vectors, plasmids, vectors and cells containing such polynucleotides are disclosed.